

# Product Safety Information

FYRQUEL®

## FIRE RESISTANT HYDRAULIC FLUIDS

### I. Physical and Chemical Properties

Chemical Composition	Tri-Aryl Phosphate
Physical State (77°F, 1 atm)	Liquid
Specific Gravity, 60°/60°F	1.12-1.21
Boiling Point, °F	735
Odor	Very Slight
Pour Point Range, °F	-30 to 30
Water Solubility (g/100 ml)	< 0.1 g
Viscosity Range, 100°F, SUS	90-1000
Flash Point, °F, COC, min.	450
Fire Point, °F, COC, min.	650
Autoignition Temperature, °F, min.	1050

Emergency Telephone No. (304) 675-1150 days  
675-1154 nights

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## II. Chemical Reactivity

FYRQUEL® fluids do not react with air to any appreciable extent at room temperature.

FYRQUEL fluids will slowly hydrolyze with water at elevated temperatures. This process is accelerated by the presence of acids or alkalis. No vigorous reactions are anticipated with common acids, alkalis, oxidizing, and reducing agents under ambient conditions.

## III. Stability

FYRQUEL fluids are highly stable materials. They are not shock sensitive, will not polymerize, and require no special storage facilities.

## IV. Fire Hazards

FYRQUEL fluids are designed to be used as a fire resistant hydraulic fluid and lubricant. Fires should self-extinguish once the source of ignition is removed.

## V. Fire Fighting Techniques

Water fog, dry powder or carbon dioxide may be used. High temperature sources of ignition should be removed by cooling with water or other means where practical. Products of combustion are not dangerously toxic but precautions should be taken to avoid inhalation. In confined spaces where fresh air flow is limited, fresh air or oxygen masks should be employed.

## VI. Health Hazard Data

Animal studies indicate that the FYRQUEL fluids are practically nontoxic when administered orally in single doses and are not irritating to the skin or eyes.

No neurotoxic effects have been reported in humans from use of these products, but they could be a hazard based upon the results of the chicken tests. Oral administration of high dosage levels of FYRQUEL 90, 150, and 220 over a five day period has produced neurotoxic effects in a susceptible species, i.e., chickens; these effects were not observed after oral administration of FYRQUEL 220 R&O, 300, and 550.

### 1. Ingestion

Based on animal studies ingestion of large doses may produce symptoms of nonspecific irritation of the gastrointestinal tract; nausea, vomiting, cramps and diarrhea.

### 2. Eye Effects

Studies with rabbits indicate that the FYRQUEL fluids are not irritating to the eyes.

### 3. Dermal Effects

No signs of irritation were observed when the FYRQUEL fluids were applied to the bare skin of rabbits.

### 4. Inhalation

No health effects are associated from inhalation of the FYRQUEL fluids. Inhalation of high concentrations of vapors, mists or sprays may produce nonspecific irritation of the upper respiratory tract.

### 5. Threshold Limit Value

None established for the FYRQUEL fluids.

### 6. Warning Properties

None.

## VII. First Aid

### 1. Ingestion

Give large amounts of water or warm salty water to induce vomiting. If this measure is unsuccessful, vomiting may be induced by tickling the back of the patient's throat with a finger. Vomiting should be encouraged until the vomitus is clear. Obtain medical attention if abdominal discomfort persists.

### 2. Eye Contact

Immediately flush the eyes with large quantities of running water for a minimum of 15 minutes. Hold the eyelids apart during the irrigation to ensure flushing of the entire surface of the eye and lids with water. Do not attempt to neutralize with chemical agents. Obtain medical attention if irritation persists. Oils or ointments should not be used unless directed by a physician.

### 3. Skin Contact

Immediately flush affected areas with water. Obtain medical attention if irritation persists.

### 4. Inhalation

Remove from contaminated atmosphere. If symptoms of respiratory discomfort occur, see a physician.

## VIII. Precautions for Normal Use

No unusual precautions are required. Good industrial hygiene practices should be followed. Prolonged contact with the skin should be avoided and soiled clothing should be removed and laundered before reuse.

The very low vapor pressure of this product removes concern over inhalation of vapors.

Small spills may be absorbed in sand or oil absorbents and remaining oily residue flushed with detergent and water.

Large spills should be diked and pumped to salvage.

## IX. Recommended Safety Equipment

Eye wash fountain, rubber gloves and safety glasses.

## X. Corrosivity to Materials of Construction

FYRQUEL fluids are inert to all common metals used in construction. Since it is an excellent plasticizer, it is detrimental to certain plastics and elastomers--particularly, vinyl based resins--and Stauffer Chemical Company should be contacted for specific recommendations.

## XI. Storage Requirements

Carbon steel is the preferred material of construction for storage. The product is commonly shipped in unlined tank cars, tank trucks and drums. At temperatures below 40°F, viscosity characteristics are such that improved pumping rates may be achieved by warming. Temperatures from 80°-100°F provide good rates of flow.

## XII. Disposal of Unused Material

Contact the Specialty Chemical Division, Stauffer Chemical Company, for specific recommendations on the disposal of unused material.